Kansas'
Cooperative Agriculture Pest Survey
Cooperative Agreement: 08-8453-0014-CA
Period Covering: 7/1/08-6/30/09

Year End
CAPS and Fiscal Report
July 1, 2008 through June 30, 2009

This report summarizes the activities conducted during the Kansas fiscal year work period, July 1, 2008 through June 30, 2009. Each project is discussed separately.

The effective dates for this cooperative agreement are July 1, 2008- June 30, 2009, Kansas' fiscal year.

Infrastructure

During the month of August, work plans were written and revised many times. Also data was submitted to the state survey, NAPIS and ISIS data bases for Emerald Ash Borer and Light Brown Apple Moth. Data was also submitted to NAPIS for Karnal Bunt and Cereal Crop Nematode to complete the projects that ended June 30, 2008.

Laurinda Ramonda enrolled in the Emerging Leaders Academy (ELA) that is offered by the University of Kansas (KU) on August 26, 2008. The class was held for 8 hours in Topeka every other Tuesday for 12 classes. The focus of the class was on self-understanding, organization teamwork, constitutional government, budgeting and strategic planning, legislative and regulatory processes, decision-making and conflict management, written and oral communication and ethics. The two main projects were a portfolio and shadowing a mentor. I shadowed Constantine Cotsoradis, Deputy Secretary of Agriculture, to learn more about the Department of Agriculture and made a presentation on what I learned from him and also presented my portfolio on the last day of class.

On September 15-19, 2008, Laurinda went to Brighton, Michigan along with Bob Atchison and Tim McDonnell of the Kansas Forest Service to attend a 3 day Emerald Ash Borer (EAB) clinic. This trip was paid for through the Kansas Forest Service and their grant money from the Great Plains Tree and Forest Invasives Initiative. The states of Nebraska, South Dakota, North Dakota, Missouri, and Pennsylvania also attended. This was one of the best clinics to learn about the devastation, detection, treatments, bio control, research and information regarding this pest. This was the last class that will be held, at least in Brighton, because this pest has moved too far west to make the class possible. I received great information and made contacts and took many pictures of the activities.

EAB rearing at MSU

EAB damage on felled tree in Michigan

On September 30-October, 2, 2008, the Plant Protection and Weed Control program did three separate exercises for emergency preparedness with the homeland security trailer. The exercises consisted of scenarios for weeds, disease and pests. Craig Webb from USDA brought his PCR equipment for the disease portion and put it through a P. ramorum test. It worked well and without any power problems. All inspectors and specialist were involved and Bill Scott and Laurinda Ramonda observed the activities.

October 14-16, 2008 was the annual Central Chapter Horticulture Inspection Society conference in Cuyahoga Falls, Ohio. On October 14, Ron Issacson from the Ohio Dept. of Agriculture (ODA) gave an

update on their Emerald Ash Borer program and Greg Bartman (USDA/APHIS) spoke about Invasive Snails & Slugs. Joe Boggs (OSU Extension) talked about 20 Questions to Diagnosis and took us outdoors to give us hands on experience. Then Dr. Dennis Lewandowski (OSU Plant Pathology) talked about Hosta Virus X.

October 15, 2008 - Speakers were Dave Adkins (ODA) and gave us an update on their Gypsy Moth Program, Dr. Jim Tew (OSU Extension) spoke about Colony Collapse Disorder and David Lentz (USDA/APHIS) talked about USDA certified Butterfly Containment Facilities. This was preparing us for the tour of the Stan Hywet Hall & Gardens.

The annual meeting had great speakers with useful information. Also many states showed slides on the evenings of October 14 & 15 about things being found when inspecting. This is always a good meeting with great information.

An Urban Forestry Workshop was held in the afternoon of October 20, 2008 in Ottawa. The agenda included talks on the Marais des Cygnes (MDC) Riparian Forestry Initiative Overview, Bi-State Targeted Watershed Grant Program Overview, Benefits of Riparian Forests, Watershed Management with Community Trees, Storm water Best Management Practices and Stream Setback Ordinances.
This was a good informational workshop. I learned a lot about riparian zones and the new laws for new developments in the Kansas City area.

On November 24, 2008 KDA met with the Kansas Wheat Commission, Kansas Ag Retailers Association and Coop Council to discuss issues we were having with Karnal Bunt sampling. We asked for their help in conveying the need for the survey and to ask the coops for their cooperation. Over the last couple of years more elevators have been denying us to take samples so we needed to get these other entities involved to try and alleviate the problem.

December 3-4, 2008 was the National CAPS Conference held in Phoenix, Arizona. Bill Scott and Laurinda Ramonda attended. We arrived on the December 2, 2008 and there was a welcome reception for everyone.

Then starting on December 3 there were welcome remarks and the vision of pest detection and CAPS were talked about. We had a panel discussion on the CAPS survey guidelines, Matt Royer spoke about the impact of the 2008 Farm Bill on CAPS, and then a best practice session on agency cooperation. We then had breakout sessions. These sessions were broken into the individual plant boards and discussed commodity-like surveys.

A second breakout session took place consisting of the topics: Analytical tools to conduct CAPS business, Survey methodology and guidelines, Appropriate data to collect and record and Risk-based vs. commodity-like surveys. Then reports from the breakout sessions were discussed. That evening consisted of a PSS/SSC networking session for a couple of hours.

On December 4, 2008, Todd Schroeder spoke on the vision of data management for pest detection and CAPS. He unveiled a new program that would pool other data management systems into one but only USDA will have access.

Then there was a 40 minute sessions for a demonstration on data management systems: PHIS, ISIS and AQAS. After lunch there was a panel discussion on outreach: sharing our mission with industry and the public. Then concurrent sessions ran with SPHD's and SPRO's having a breakout session on managing

cooperative agreements at the state level and PSS's and SSC's went to taxonomic and diagnostic demonstrations.

A second breakout session for peer groups occurred. Discussions of topics of interest relevant to the perspective of the various roles of the CAPS program and then there were reports from the breakout sessions. We had a banquet that evening and the meeting was adjourned.

The Great Plains Tree and Forest Invasives Initiative (GPI) met in Lincoln, Nebraska on December 10 and 11, 2008. Agenda: December 10 - Overview of GPI accomplishments and upcoming events, Education and outreach for EAB, Potential meetings/workshops/conferences with partner agencies, utilization of EAB produced dead wood material and 4-state response/readiness/preparedness plan for forestry. December 11, 2008 – 2008 GPI inventory discussions, 2009 GPI inventory recommendations and discussions and looking ahead at 2009 redesign application proposal.

I have been working with the GPI since going to Brighton, Michigan last summer for the EAB clinic. This group has been very involved in outreach activities on EAB and other invasives in the Great Plains states.

The Kansas Department of Agriculture had a staff meeting on December 17, 2008. The meeting was attended by Katie Howard, Erin Stiers-APHIS, Bill Scott, Sarah Bailey, Laurinda Ramonda, Glenn Salsbury, Jeff Vogel, Tom Sanders, Bill Hilbert and Kitty Crooks.

Bill Scott talked about the budget, building lease, the upcoming APHIS emergency exercise, the KKSU radio sign-up, the EDRR Bark Beetle forestry survey, survey projects, holiday schedule and home office projects. Sarah Bailey spoke about office procedures. Laurinda Ramonda spoke about the CAPS projects, the EAB Readiness & Response Plan, and sign up for garden shows. Glenn Salsbury spoke about insect surveys. Jeff Vogel talked about weeds, weed free forage and IT issues. Kitty Crooks spoke about exports and PCIT. Bill Hilbert and Tom Sanders gave updates on their work areas.

Minutes from CAPS Committee Meeting on December 18, 2008

The state CAPS Committee met on December 18, 2008 at 10:00 am at the Dean's Conference room, 137 Waters Hall at Kansas State University. In attendance were Erin Stiers-USDA-APHIS, Mike Brown-USDA-APHIS, Craig Webb-USDA-APHIS, Doug Jardine-KSU Plant Pathology, Walter Fick-KSU Agronomy, Jon Appel-KDA, Glenn Salsbury-KDA, Sharon Dobesh-KSU Entomology, Katie Howard-KDA, Jeff Vogel-KDA, Bill Scott-KDA, Judy O'Mara-KSU Plant Pathology, Holly Davis-GPDN, Erick DeWolf-KSU Plant Pathology, Tim Todd-KSU Plant Pathology and Laurinda Ramonda-CAPS Coordinator.

Introductions were made and then the current surveys were discussed. We are in the process of switching from a fiscal year to a calendar year for surveys.

<u>For fiscal year July 1, 2008-June 30, 2009:</u>

- Infrastructure (staying on fiscal year).
- Emerald Ash Borer-200 traps set, 100 KDA and 100 USDA. Survey completed with no EAB found.

- Light Brown Apple Moth-50 traps set by KDA. Survey completed with no LBAM found.
- Karnal Bunt survey will occur in June/July.
- Cereal Crop Nematode Survey will start in March and continue to June with 668 samples planned in 25 Counties. Counties: Barber, Barton, Clark, Comanche, Edwards, Ellis, Ellsworth, Ford, Harper, Hodgeman, Kingman, Kiowa, Lincoln, Osborne, Pawnee, Phillips, Pratt, Reno, Rice, Rooks, Rush, Russell, Smith, Stafford, and Trego.

Work plans submitted for calendar year January 1-December 31, 2009:

- Red Imported Fire Ants will start in May and continue through August in the City of El Dorado in Butler County. This will occur at 10-15 sites with 3 visits to each site.
- Small Grain & Soybean Commodity survey will begin in May and continue through September.

  Targets and trapping:
  - Silver Y Moth (Autographa gamma), May-September in wheat & soybean fields. Delta trap with pheromone (Z)-7-dodecenyl acetate and (Z)-7-dodecenol lure. Checking trap monthly.

  - Egyptian Cotton Leafworm (Spodoptera littoralis), May-September in wheat & soybean fields. Delta trap with synthetic pheromone (Z, E)-(9, 11)-tetradecadienyl acetate with a 2 mg pheromone blend lure. Checking trap monthly.

  - Old Bollworm (Helicoverpa armigera), May-September in wheat & soybean fields. Shared delta trap with Egyptian Cotton Leafworm with (Z)-11-hexadecenal and (Z)-9-hexadecenal lure. Checking trap monthly.

  - Maritime Gardensnail (Cernuella virgata), May-September in wheat & soybean fields. Visually inspect for on plants at edge of field when checking traps monthly.

  - Yellow Witchweed (Alectra vogelii), May-September in soybean fields. Visually inspect for when checking traps monthly.

  - Soybean Aphid (Aphis glycines), June-September in soybean fields. Visually inspect when plants are actively growing.

  - Cereal Leaf Beetle (Oulema melanopus), May-June in wheat fields. Visually inspect for when checking traps.

  - Insidious Flower Bug & Minute Pirate Bug (Orius spp.), Damsel Bug (Nabis spp.), Lacewings, and Lady Beetles, May-September in wheat and soybean fields. Sweep nets monthly when checking traps.

County	Commodity	Planted All Purposes (acres)	# of fields to be trapped *	Commodity	Planted All Purposes (acres)	# of fields to be trapped *
Butler	Soybeans	42,300	1	Wheat	67,500	2
Clay	Soybeans	62,000	2	Wheat	96,300	4
Cloud	Soybeans	32,800	1	Wheat	125,600	5
Cowley	Soybeans	30,800	1	Wheat	92,100	1
Dickinson	Soybeans	52,100	2	Wheat	159,600	6
Ellsworth	Soybeans	8,000	1	Wheat	103,900	4
Harper	Soybeans	4,400	1	Wheat	249,300	10
Harvey	Soybeans	49,000	2	Wheat	133,700	5
Jewell	Soybeans	41,800	1	Wheat	144,400	5
Kingman	Soybeans	10,900	1	Wheat	205,100	8
Lincoln	Soybeans	11,700	1	Wheat	110,100	4
Marion	Soybeans	47,700	1	Wheat	144,200	5
McPherson	Soybeans	43,000	1	Wheat	240,900	9
Mitchell	Soybeans	25,000	1	Wheat	202,800	8
Ottawa	Soybeans	19,300	1	Wheat	122,900	4
Reno	Soybeans	43,400	1	Wheat	254,600	10
Republic	Soybeans	61,300	2	Wheat	110,100	4
Rice	Soybeans	31,500	1	Wheat	175,400	7
Saline	Soybeans	25,500	1	Wheat	152,700	6
Sedgwick	Soybeans	40,800	1	Wheat	207,700	8
Sumner	Soybeans	37,000	1	Wheat	399,000	12
Washington	Soybeans	74,700	3	Wheat	100,500	4

* Number of fields surveyed based on acreage of crop planted. 1 field surveyed for every 25,000 acres per county of crop planted. If less than 25,000 acres of crop planted then 1 field will be surveyed. The intent is to survey 22 counties and 159 fields but cost constraints may alter this number.
Source: Planted acres-2007 Kansas Farm Facts from the National Agriculture Statistics Service.

- Canada Thistle Biological Control using Ceutorhynchus litura at Keith Sebelius Lake. Release will occur in July with monitoring August-October.
- Spotted Knapweed Biological Control using the lesser knapweed flower weevil (Larinus minutes) and the knapweed root weevil (Cyphocleonus achates). Survey for spotted knapweed in June-July, release lesser knapweed flower weevil in July, release knapweed root weevil in August and monitor in August-October.

<u>Possible surveys in calendar year January 1-December 31, 2009:</u>

- Emerald Ash Borer- 100 traps KDA, 100 traps USDA in May-September/October.
- Light Brown Apple Moth in July-October.

State Specialist Updates:

Jeff Vogel-State Weed Specialist: Hydrilla, a federally quarantined noxious weed, was found in Olathe at Black Bob Park in a pond. He has been meeting with Wildlife & Parks and working on an action plan. This could include draining of pond and/or treatment with an herbicide. This will include surveying downstream for 3 years.

A Canada thistle bio-control workplan has been submitted to APHIS. This is a regulated plant and is a problem at Norton Lake. He will scout where to release, order the Canada thistle stem boring weevil and release it. A reduction of Canada thistle probably won't be seen for about 1 ½ years.

A Spotted knapweed bio-control workplan has been submitted to APHIS. We will survey known areas, delimit area, and scout North and Southeast counties for Spotted knapweed. The release will occur in Nemaha county. Two insects will be ordered and released.

Walt Fick said that Spotted knapweed is spread across southern Missouri.

Jeff also said that insects were re-released for Leafy spurge bio-control and many flea beetles were spotted in the fall survey.

Glenn suggested saving voucher specimens from the releases.

Jon Appel-State Pathology Specialist: A problem from the Cereal Crop Nematode survey was that some of the data didn't mesh and this would be looked at to fix for the spring survey.
This is the 15th year for the Karnal Bunt survey. We are making an effort with the stakeholders to get better cooperation from the elevators.

He suggested that when we are in the soybean fields doing the Small Grain & Soybean Commodity survey to take samples for Reniform nematodes.

It was also suggested to look for Caladium mosaic virus in soybean fields.

Tim Todd spoke about the Cereal Crop Nematode survey from the first year. There were 700 samples and 2 extractions occurred for roots and soil. There were no exotics found. He is getting as much information from the survey as possible. He said that the Lesion nematode is spread throughout North America and documented losses have occurred in wheat in western Kansas. Yield losses of 2% occurred due to this pest. He has put in a proposal for control strategies to the Kansas Wheat Commission for this. The Lesion nematode is the #2 pest of wheat.

Glenn Salsbury-state Entomologist: The Large Yellow Underwing is now found across Kansas. It was initially found in 2007 in Meade, Barton and Leavenworth Counties. It is trapped in a black light trap and is a pest of corn, sorghum, home gardens and it is a general feeder.
Found by USDA in a Lindgren trap was a European Flea Weevil in Leavenworth County. This pest feeds on the leaf buds of the American Elm.

We most likely will be entering into a USDA Forest Service Agreement to do a Bark Beetle survey. This will involve selecting 7-9 high risk sites with 3 Lindgren traps per site baited with UHR ethanol lure, UHR alpha-pinene & UHR ethanol and a 3 component exotic Ips lure. Taxonomists for the survey will identify all scolytid specimens in traps. The target species surveyed for are *Hylurgops palliates, Hylurgus ligniperda, Orthotomicus erosus, Ips sexdentatus, Ips typographus, Tomicus minor, Tomicus piniperda, Trypodendron domesticum,Xyleborus* and *Xylosandrus* spp.

The Ash Bark Beetle is found to be killing ash trees in Wichita the last couple of years.

We will be doing trapping for the Forest Service again for endemic and exotics to collect flatheaded borers, weevils, and longhorn beetles in canopy traps.

We have been conducting a Pine Sawyer Beetle survey and have found 2 generations of this pest. They first emerge in May and are active adults until the middle of November. There is an effort to keep the Pine Sawyer Beetle out of western Kansas because much of their windbreaks are pine.

The Pine Pitch Moth has been found in Wichita and Goodland. In Goodland it is in 3 shelterbelts and a golf course. It attacks Austrian and Scotch Pine and we are working on a plan for spraying.

We have had discussions with the Forest Service to look for Black Walnut. There is concern over the Walnut Twig Beetle which causes the 1000 Cankers complex in Walnut trees. There is a possibility it might be attracted to an Ips lure in a canopy trap.

Bill Scott-KDA Program Manager: We will be involved in an Incident Command System (ICS) exercise with USDA. There are 2 exercises per year in the western & eastern region. A year and half ago we said we could do it and they took us up on it for 2008. The meeting spaces will be at the FSA office in Manhattan and the pest will be UG99 in wheat. The table top will occur on January 28 & 29. The full scale exercise will be February 23-27. There will be training on Tuesday, the exercise will occur on Wednesday and the critique will be on Thursday of that week.

Mike Brown said that this is an opportunity to learn what will happen in an emergency situation. He also stated that facilitators from USDA will make the scenario.

Jon Appel suggested that we involve the commodity groups in the exercise.

KSU Specialists Updates:

Doug Jardine: No soybean rust in 2008. It has only showed up in 1 year out of 4. The Texas winter crop of soybeans seems to be heavily infested. We are scrambling to find funding for sentinel plots and the PIPE site. Funding has been found for the PIPE site through 2009. Kansas is a tier 2 state for funding. Kansas had 20 plots last growing season. We can get by with 10 plots especially if we do mobile scouting.

He suggested that we look for Frog Eye Leaf Spot in soybean fields while doing the Small Grain & Soybean Commodity survey. He said it was easy to identify.

He said that we should watch for Goss's Wilt in corn. It was originally in Nebraska but was a problem in 2008 in Iowa, Illinois and Indiana. It is transmitted by splashing water.

Jon Appel said that he would like to see us do a Corn Commodity survey. He also asked how long commodity surveys need to be done.

Erick DeWolf: He informed of us of a wheat virus survey being done and they are monitoring for wheat stem rust.

Judy O'Mara: A wheat virus survey was done in 2007 and 2008. They found that 2/3 of the samples were positive for Wheat Streak and Triticum Mosaic Wheat Streak Virus.

Walt Fick: Weeds of issue are Garlic Mustard and Black Swallowart especially in Morris county.

A contact list that will be used for reviewing the EAB readiness and response plan was passed around. A meeting is planned for review for either February 12 and/or 17. The GPDN said that they could help with funding for outreach for EAB. It was also suggested to contact hunting organizations for input.

The Kansas Department of Agriculture, Plant Protection and Weed Control program participated in the Western Nursery & Landscape Association Annual Meeting and Trade Show in Overland Park on January 4-6, 2009. We had an informational booth to provide outreach to the visitors. Total attendance at the show was 2,500.

Literature handed out:

*EAB Pest Alert-50
*EAB Threat to Kansas-39
*Fire Ants-31
*Gypsy Moth Pest Alert-49
*Nursery Pest Watchlist-84
*Pine Pitch Moth-28
*Invasive Weed Watch List-130
*Plum Pox Virus Pest Alert-84
*Africanized Bees-28
*Nursery Newsletter-64
*Japanese Beetle-200
*KDA duties-14
*Sudden Oak Death Pest Alert-88
*Fox Glove-12
*Pine Wilt-207
*Hemlock Wooly Adelgid Pest Alert-41
*Woodboring Insects Pest Alert-120
*Rhizosphaera Needle Disease Pest Alert-31
*Sirex Woodwasp Pest Alert-47
*Asian Longhorn Beetle Pest Alert-108

We also attended the Western Nursery & Landscape Association business meeting. Bill Scott gave them an update on KDA procedures, recent pest issues and raising the live plant dealers' license fee.

KDA participated with an information booth at the Kansas Arborist's Association Shade Tree Conference held on January 14-16, 2009 in Topeka, Kansas. Laurinda Ramonda, Erin Stiers and Bill Hilbert spoke with arborists and handed out informational material.

Literature handed out:

*EAB Pest Alert-100
*EAB ID card-1 ½ packs
*EAB Threat to Kansas-54
*Gypsy Moth Pest Alert-78
*Pine Wilt-75
*Fire Ants-76
*Asian Longhorn Beetle Pest Alert-41
*Africanized Bees-98
*KDA duties-8
*Woodboring Insects Pest Alert-68
*Pine Pitch Moth-116
*Invasive Pests Watchlist-48
*Sirex Woodwasp Pest Alert-26
*Nursery Pest Newsletter-12

*Rhizosphaera Needle Disease-34 *Hemlock Wooly Adelgid Pest Alert-130
*Sudden Oak Death Pest Alert-37

Missouri Department of Agriculture put on an EAB seminar and tour of the site where EAB has been found on January 21, 2009. States in attendance were Nebraska, Kansas, Oklahoma, Missouri, Arkansas, Kentucky and Tennessee. Laurinda attended and found it very beneficial especially since it was a new find in that state.

The seminar was held at Comfort Inn in Poplar Bluff in the morning. The itinerary was the History of EAB in Missouri, Quarantines and Compliance Agreements, Response of the USACOE-Lake Wappapello; How EAB has Affected Road Construction Activities in the Greenville Area, Endangered Species and EAB-Indiana Bat Maternity Colonies, Grid Trapping and Delimit Survey at the Greenville site in Missouri and EAB Management and Outreach.

A tour of the site at Lake Wappepello was in the afternoon. The easiest thing to look for when doing visual surveys is bark splits and wood pecker damage. You will see bark splits within a year of infestation. I also took pictures for future reference. It was a great opportunity to learn from them.

On January 28, 2009 a table top exercise was held in preparation for the full scale emergency exercise to take place the last week in February. There were about 20 people in attendance from different agencies. We were given a situation manual to discuss and learned the players in the scenario and what their duties will be. It was a good learning experience for everyone.

Authorized Certification Official (ACO) training was held in Lincoln, Nebraska on February 2-6, 2009. Laurinda Ramonda and Terry Clarkson attended from Kansas. Training classes were held February 3-5 with a 3 hour test given on February 6.

Laurinda Ramonda held an Emerald Ash Borer Readiness and Response plan meeting on February 12, 2009 at the Kansas Forest Service office in Manhattan. In attendance was Bill Scott- KDA, Lisa Taylor- KDA (communications), Mark Janzen- NRCS (Plant Materials Specialist), Glenn Salisbury- KDA (entomologist), Erin Stiers- USDA/APHIS/PPQ (PSS), Mike Brown- USDA/APHIS/PPQ (SPHD), Chad Gilliland- KAA (Kansas Arborists Association Board member), Kim Bomberger- KFS, Tim McDonnell- KFS, Bob Atchison- KFS, Sharon Dobesh- GPDN, Dale Kirmer- KDOT (maintenance). We met to discuss the plan draft and explain the involvement of each agency when this pest is found in Kansas. The meeting had good discussions and helped identify contact information for each agency or group.

The Kansas Garden Show was held in Topeka on February 13-15, 2009. The KDA had an informational booth set up and provided outreach to the public. Approximately 13,000 people attended the show.

Literature handed out:

*Gypsy Moth -111 *Africanized Bees-116 *Fire Ants-109
*Invasive Weed Watch List-318 *EAB Threat to Kansas-79 *Pine Wilt in Kansas-175
*Does Your Plant Have a Virus?-245 *Japanese Beetle-170 *Hosta Virus X-231
*Invasive Pest Watch List-117 *KDA duties-85 *Oak Tatters Pest Alert-72
*Light Brown Apple Moth-90 *EAB Pest Alert-100 *EAB I.D. cards-2 packs
*Sirex Woodwasp Pest Alert-89 *EAB tattoos-2 ½ packs *Nursery Pest Newsletter-149
*Asian Longhorn Beetle Pest Alert-79 *Woodboring Insects Pest Alert-122
*Multicolored Asian Lady Beetle-316 *Hemlock Wooly Adelgid Pest Alert-49

*Sudden Oak Death Pest Alert-105 *Locust Leafminer Pest Alert-42
*Ralstonia Solanacearum Pest Alert-69 *Banded Elm Beetle Pest Alert-72

USDA-APHIS-PPQ and the Kansas Department of Agriculture held the 3 day national exercise program for the spring. This was a full scale plant health emergency exercise. It was held in Manhattan, Kansas at the FSA office. Participants were from KDA, PPQ-KS, PPQ-MO, PPQ-NM, PPQ-SD, PPQ-NE, PPQ-IA, PPQ-OK, OK Department of Agriculture, MO Department of Agriculture, K-State, CBP, and IES-KS.

The first day consisted of ICS/exercise orientation training, evaluator/controller training, pest of interest briefing, preparation of initial Incident Action Plan (IAP) and briefing by Unified Command (IC) to all players. The exercise began on the 2nd day which really felt like the real thing. The 3rd day consisted of a press conference and hotwash. This exercise was intense and provided great training for when a real incident occurs. It also gave us insight into corrections that need to be implemented before this happens.


Bob Buhler and field crew


Jon Appel (operations chief) and field crew


Laurinda Ramonda, Mike Brown (unified command) & Lisa Taylor (PIO)


Operations Center

Comments from the exercise were received in April 2009. The evaluators were pleased with our exercise and gave us a few suggestions. Thanks to all who participated.

On March 3, 2009 Bill Hilbert provided information at the Advanced Master Gardner's Training.

Literature handed out:

*Africanized Bees-50 *Invasive Pest Watchlist-50 *Invasive Weed Watchlist-50

The Wichita Garden Show was held on March 4-8, 2009. The KDA had an informational booth set up and provided outreach to the public. Attendance was way down from last year.

Literature handed out:

*Gypsy Moth -48
*Invasive Weed Watch List-82
*Multicolored Asian Lady Beetle-52
*Woodboring Insects Pest Alert-51
*Sudden Oak Death Pest Alert-33
*Sirex Woodwasp Pest Alert-18
*EAB I.D. cards- 3 packs
*Ralstonia Solanacearum Pest Alert-82
*Banded Elm Beetle Pest Alert-26
*Africanized Bees-36
*EAB Threat to Kansas-28
*Oak Tatters Pest Alert-28
*Japanese Beetle-48
*Pine Wilt in Kansas-68
*Plum Pox Virus-31
*Asian Longhorn Beetle Pest Alert-10
*Locust Leafminer Pest Alert-22
*Fire Ants-32
*EAB Pest Alert-34
*Hosta Virus X-86
*Light Brown Apple Moth-21
*Pine Pitch Moth-40
*EAB tattoos- 10 packs

The 84th annual Central Plant Board meeting was held March 2-5, 2009 in Des Moines, Iowa. Laurinda Ramonda was the only one who attended from Kansas. Itinerary:

Monday March 2-call to order, roll call, welcome & announcements, Central Plant Board President remarks & report, Plant Protection & Quarantine regional reports, NASDA update, American Nursery & Landscape Association report, US Forest Service issues/competition grants, Canadian Food Inspection Agency report, State reports & presidents discretionary time, PPQ-Where is the money & who gets it?, PPQ-Official Control, State reports & President's discretionary time, PCIT update/fees/status of states and Compliance Agreements Panel.

Tuesday March 3- Call to order & announcements, PIPE, IPM Farm Bill, Potato Cyst Nematode update & funding, Seed potato certification, MOU & PCN, EAB & SLAM, EAB Biocontrol, Firewood & Kilns-Regulatory, European Wood Wasp- Sirex noctilio- update, survey and biocontrol regulatory outlook, Farm Bill & Phytophthora ramorum update, Farm Bill, Soybean Rust-Where are we at?, NAPIS & ISIS, CAPS update/discussion, State reports & President's discretionary time, Breakout meeting for SSC's, National Seed health panel, and State Reports and President's discretionary time.

Wednesday March 4-Apiary Issues, Gypsy Moth-Slow the Spread update, Horticulture Inspection Society update, Biotech Regulatory Services update, Port risk, pest risk, CAPS committees, What IES can do for you, NPB/PPQ communications committee update, State reports, Field trip to National Animal Disease Lab and NC+ Bio Future facility, and banquet at the Iowa Machine Shed (excellent dinner speakers).

Thursday March 5 concluded with the business meeting.

KDA held their staff meeting March 11-12. Itinerary:
Timesheets, office procedures, personnel recognition, remaining budget for FY 2009, vehicle issues, work area changes, BRS inspections-equipment from 2005, ICS exercise, update on CAPS projects, Central Plant Board, Cereal Crop Nematode Project, disease outlook, insect update, export update, PCIT training, weed update and state database update.

On April 16, 2009 I attended a webinar about PHIS. It gave me insight into what is coming down the road for entering data. It seemed to have lots of capabilities but it still needs to be completed and have many questions answered before states will have access to it.

KDA received from the national EAB program, 1,200 yard signs, 30 medium, 144 large and 72 extra large shirts for EAB awareness week in May. We distributed 500 yard signs and 24 shirts to the Kansas Forest Service, 300 yard signs and 14 shirts to Corp of Engineers and 250 yard signs and 40 shirts to Kansas Department of Wildlife and Parks. We also gave them to extension offices that requested them.

Signs, literature and t-shirts were distributed to local recreational vehicle campgrounds. We had good response from them. They seemed to be very interested. I also found out that they sell their own local wood at these campgrounds.

Kansas participated in EAB Awareness week on May 17-23 by distributing the yard signs, putting out press releases and having a governor's proclamation signed. We are continuing this campaign through the summer. Laurinda also spoke with Channel 27 on the live at five program on emerald ash borer on May 26.

KDA has an EAB website located at: www.ksda.gov/plant_protection/content/337. This includes access to the Kansas Emerald Ash Borer Response and Readiness plan, an Emerald Ash Borer Facts, Questions and Answer sheet and links to various informational sites.

On May 26, Topeka's Channel 27, NBC, interviewed Laurinda about the Burn It Where You Buy It campaign for emerald ash borer. It was only a 2 minute segment on the five o'clock news but at least the news station is helping make the public aware of this issue.

June was spent getting survey supplies together and out in the field.

Laurinda attended a table top exercise in Oklahoma City, Oklahoma on June 23 and 24, 2009. It was called Partnering for Success During a Plant Health Response: A Tabletop Exercise. I was asked to be an evaluator the week before the exercise. It was nice to see the other side of things.

June 23 began in the morning with the facilitator and evaluator meeting. After lunch everyone showed up and we talked about Lessons Learned from the May 2008 Plant Pathology Field Exercise. Bill Scott and I both attended that last year. Next was the Exercise Purpose and Conduct, Module 1: Incident Recognition, then a Breakout Group Discussion. After the group discussion we did Plenary Reports, then adjourned for the day.

June 24 began in the morning and went all day. On day 2 we had introductions, Module 2: Initial Response, Module 3: Forensic Analysis and Module 4: Recovery. After each module we had a break out group discussion and plenary reports. When all modules were completed we had a hot wash and closing comments.

This was a very good session and a good learning experience. They partnered with many types of law enforcement, FBI, highway patrol, etc. in case of terrorist act. This tabletop was collaboration between U.S. Department of Homeland Security, Oklahoma Homeland Security, FEMA, Oklahoma State and NIMFFAB.

PROJECTS FOR JANUARY 1, 2009-DECEMBER 30, 2009:

- **Small Grain & Soybean Commodity Survey -** Silver Y Moth, Egyptian Cotton Leafworm, Old World Bollworm, Yellow Witchweed and Soybean Aphid (in soybean fields), Cereal Leaf Beetle (in wheat fields) and Maritime Gardensnail in wheat and soybeans in Central Kansas. Also beneficials- Insidious Flower Bug, Minute Pirate Bug, Damsel Bug, Lacewings and Lady Beetles. Counties: Butler, Clay, Cloud, Cowley, Dickinson, Ellsworth, Harper, Harvey, Jewell, Kingman, Lincoln, Marion, McPherson, Mitchell, Ottawa, Reno, Republic, Rice, Saline, Sedgwick, Sumner and Washington. Survey from May-September.

- **Red Imported Fire Ant Survey** - El Dorado area where trees were planted from Tennessee. Survey is planned from May-August.

- **Emerald Ash Borer** – 100 traps mostly at campgrounds and event areas throughout the state. Survey is planned from May-September. USDA will be setting 100 traps also.

- **Biocontrol-**
    - **Canada Thistle** control using *Ceutorhynchus litura*.

    - **Spotted Knapweed** control using the lesser knapweed flower weevil (*Larinus Minutus)* and the knapweed root weevil (*Cyphocleonus achates).*

- **Infrastructure**-this project will still be a on a fiscal year basis**, July 1, 2008-June 30, 2009**.

Light Brown Apple Moth Survey

This survey required us to set 50 traps in high risk areas. These were mainly at live plant dealers that received stock from California from areas in or near quarantine zones. But some were put in park rose and ornamental gardens. Marcy Irwin (temp/seasonal staff) placed 42 in Manhattan, Topeka, Lawrence and the Kansas City Area. Cherie Copeland placed 8 in Wichita.

Marcy started using the new PDA's that were installed with the ISIS software to set and monitor traps. But we also did a hard copy on data sheets as a backup. This worked well for the most part. A few small issues were noticed when in the field the PDA's sometimes need to have a soft reset done because they give an error message. Also the data must down loaded from the PDA into ISIS at least every 14 days, preferably sooner.

Some moths resembling Light Brown Apple Moths were submitted from 11 traps to a USDA identifier in the month of August and 3 traps for the month of September. These were from traps that Marcy Irwin placed. Eleven traps were sent in from August and five traps were sent in from September were found not to be LBAM.

All traps were picked up as of October 9, 2008 and data entered into ISIS, NAPIS and the state survey database. All specimens came back negative. No LBAM found in Kansas in 2008.

Emerald Ash Borer Survey

These traps were put into service in May and removed in August and September. The financial support for this national survey was given to us starting in July. No Emerald Ash Borers have been found in Kansas. Several look a likes were found in traps. These were Two-lined Chestnut Borers and Honeylocust Borers.

Since this national survey started, Wisconsin and Missouri have been identified as new states with infestations. In Missouri the infestation appeared July 23, 2009 when U.S. Department of Agriculture (USDA) found seven suspicious beetles on a trap at the U.S. Army Corps of Engineers' Greenville Recreation Area in Wayne County at Lake Wappapello in the southeastern part of the state. This appears to have been brought in by firewood approximately 5-7 years ago.

All traps have been picked up and data entered into ISIS, NAPIS and the state survey database. No EAB found in Kansas in 2008.

Cereal Crop Nematode Survey

There were 2 full time people hired and 2 part-time people hired for this survey. The full time people worked from March 22-May 1, 2009. By the end of May, 728 soil and root samples were taken from wheat fields and sent to the KSU lab. Lab results are pending.

Karnal Bunt

This project began June 22, 2009 when wheat harvest started and finished at the end of June. There were 102 counties sampled with 363 samples taken.

Listed below are records that have been submitted to NAPIS

Pest: EMERALD ASH BORER

	Positive	Negative
ALLEN County	0	2
ANDERSON County	0	2
BARBER County	0	1
BARTON County	0	1
BOURBON County	0	2
BUTLER County	0	4
CHASE County	0	2
CHEROKEE County	0	2
CHEYENNE County	0	1
CLARK County	0	1
CLAY County	0	3
CLOUD County	0	1
COFFEY County	0	5
CRAWFORD County	0	2
DICKINSON County	0	5
ELLIS County	0	2
ELLSWORTH County	0	6
FINNEY County	0	1

FORD County	0	1
GOVE County	0	1
GRAHAM County	0	1
GREENWOOD County	0	1
HARVEY County	0	2
JEFFERSON County	0	1
JEWELL County	0	2
LABETTE County	0	2
LINN County	0	2
MCPHERSON County	0	3
MARSHALL County	0	1
MEADE County	0	1
MITCHELL County	0	3
MONTGOMERY County	0	2
NEOSHO County	0	2
PAWNEE County	0	1
PRATT County	0	2
RENO County	0	5
REPUBLIC County	0	3
RUSSELL County	0	1
SALINE County	0	2
SEDGWICK County	0	8
SHERMAN County	0	1
STAFFORD County	0	3
THOMAS County	0	2
TREGO County	0	1
WOODSON County	0	3
State Total	**0**	**100**

Pest: EMERALD ASH BORER

*Data entered for USDA

	Positive	**Negative**
ATCHISON County	0	5
BROWN County	0	6
DONIPHAN County	0	5
DOUGLAS County	0	6
FRANKLIN County	0	2
GEARY County	0	4
JACKSON County	0	2
JEFFERSON County	0	6
JOHNSON County	0	6
LEAVENWORTH County	0	8
LYON County	0	1
MIAMI County	0	7
MORRIS County	0	2
OSAGE County	0	5
POTTAWATOMIE County	0	3
RILEY County	0	10
SHAWNEE County	0	6
WABAUNSEE County	0	2
WYANDOTTE County	0	8
State Total	**0**	**94**

Pest: TWO-LINED CHESTNUT BORER

* These pests were found on Emerald Ash Borer traps.

	Positive	Negative
ASH		
LABETTE County	1	0
WOODSON County	1	0
State Total	**2**	**0**

Pest: HONEYLOCUST BORER

* These pests were found on Emerald Ash Borer traps.

	Positive	Negative
ASH		
MCPHERSON County	1	0
STAFFORD County	4	0
State Total	**4**	**0**

Pest: LIGHT BROWN APPLE MOTH

	Positive	Negative
DOUGLAS County	0	4
JOHNSON County	0	16
RILEY County	0	10
SEDGWICK County	0	8
SHAWNEE County	0	12
State Total	**0**	**50**

Pest: EUROPEAN GYPSY MOTH

* Data entered for USDA.

	Positive	Negative
ATCHISON County	0	24
BROWN County	0	24
DICKINSON County	0	12
DONIPHAN County	0	17
DOUGLAS County	2	35
FRANKLIN County	0	30
GEARY County	0	17
JACKSON County	0	24
JEFFERSON County	0	29
JOHNSON County	0	77
KIOWA County	0	25
LEAVENWORTH County	1	28
MIAMI County	0	30
MONTGOMERY County	0	31
NEMAHA County	0	20
OSAGE County	0	37
POTTAWATOMIE County	0	15
RILEY County	0	24
SALINE County	0	8
SHAWNEE County	0	35

WABAUNSEE County	0	9
WYANDOTTE County	0	41
State Total	**3**	**592**

Pest: ASIAN GYPSY MOTH

* Data entered for USDA.

	Positive	**Negative**
ATCHISON County	0	24
BROWN County	0	24
DICKINSON County	0	12
DONIPHAN County	0	17
DOUGLAS County	0	35
FRANKLIN County	0	30
GEARY County	0	17
JACKSON County	0	24
JEFFERSON County	0	29
JOHNSON County	0	77
KIOWA County	0	25
LEAVENWORTH County	0	28
MIAMI County	0	30
MONTGOMERY County	0	31
NEMAHA County	0	20
OSAGE County	0	37
POTTAWATOMIE County	0	15
RILEY County	0	24
SALINE County	0	8
SHAWNEE County	0	35
WABAUNSEE County	0	9
WYANDOTTE County	0	41
State Total	**0**	**592**

Pest: CHINESE MYSTERY SNAIL

*Data entered for USDA

	Positive	**Negative**
ATCHISON County	1	0
State Total	**1**	**0**

Pest: SMALL HIVE BEETLE

	Positive	**Negative**
RESIDENTIAL PROPERTY		
7/15/08 SEDGWICK County	1	0
9/8/08 SUMNER County	1	0
State Total	**2**	**0**

Pest: LARGE YELLOW UNDERWING

	Positive	**Negative**
FOREST HARDWOODS		
9/6/2008 CRAWFORD County	1	0

State Total	**1**	**0**

Pest: AFRICANIZED HONEY BEE

	Positive	Negative
9/24/2008 BOURBON County	0	1
12/4/2008 MONTGOMERY County	0	1
State Total	**0**	**1**

Pest: AVOCADO WEEVIL

	Positive	Negative
Cherokee	1	0
State Total	**1**	**0**

Pest: EUROPEAN ELM FLEA WEEVIL

*Data entered for USDA

	Positive	Negative
10/06/2008 LEAVENWORTH County	1	0
State Total	**1**	**0**

Pest: HYDRILLA

	Positive	Negative
9/04/2008 JOHNSON County	1	0
State Total	**1**	**0**

Pest: JAPANESE BEETLE

*Data entered for USDA

	Positive	Negative
SEDGWICK County	1	0
SHAWNEE County	1	0
State Total	**2**	**0**

Pest: JAPANESE BEETLE

*****Data was missing in NAPIS for Exotic Beetle Scarab project.

	Positive	Negative
BARTON County	8	0
BUTLER County	2	0
ELLIS County	13	0
State Total	**23**	**0**

Pest: ASIATIC GARDEN BEETLE

*****Data was missing in NAPIS for Exotic Beetle Scarab project.

	Positive	Negative
BARTON County	0	16
BUTLER County	0	2
ELLIS County	0	32
JOHNSON County	0	1
RENO County	0	1
State Total	**0**	**52**

Pest: EUROPEAN CHAFER

*****Data was missing in NAPIS for Exotic Beetle Scarab project.

	Positive	Negative
BARTON County	0	16
BUTLER County	0	2
ELLIS County	0	32
JOHNSON County	0	1
RENO County	0	1
State Total	**0**	**52**

Pest: ORIENTAL BEETLE

*****Data was missing in NAPIS for Exotic Beetle Scarab project.

	Positive	Negative
BARTON County	8	0
ELLIS County	13	0
State Total	**21**	**0**

Pest: EASTERN WHITE PINE BARK BEETLE (*Pityogenes hopkinsi*)

	Positive	Negative
5/12/2009		
Johnson County	1	0
State Total	**1**	**0**

Pest: EASTERN PINE WEEVIL (*Pissodes nemorensis*)

	Positive	Negative
5/21/2009		
Shawnee County	1	0
State Total	**1**	**0**

Pest: KARNAL BUNT

	Positive	Negative
Allen County	0	1
Anderson County	0	1
Atchison County	0	1
Barber County	0	5
Barton County	0	7
Bourbon County	0	1
Brown County	0	1
Butler County	0	2
Chase County	0	1
Chautauqua County	0	2
Cherokee County	0	3
Cheyenne County	0	4
Clark County	0	2
Clay County	0	5
Cloud County	0	5
Coffey County	0	1
Comanche County	0	2
Cowley County	0	4
Decatur County	0	4
Dickinson County	0	7
Doniphan County	0	1
Douglas County	0	1
Edwards County	0	4
Elk County	0	1
Ellis County	0	4
Ellsworth County	0	3
Finney County	0	6
Ford County	0	6
Franklin County	0	1
Geary County	0	1
Gove County	0	5
Graham County	0	3
Gray County	0	5
Greeley County	0	1
Greenwood County	0	1
Hamilton County	0	4
Harper County	0	9
Harvey County	0	5
Haskell County	0	3
Hodgeman County	0	4
Jackson County	0	1
Jefferson County	0	1
Jewell County	0	6
Johnson County	0	1
Kearny County	0	1
Kingman County	0	5
Kiowa County	0	3
Labette County	0	2
Lane County	0	3
Leavenworth County	0	1
Lincoln County	0	5
Linn County	0	1
Logan County	0	4

McPherson County	0	10
Marion County	0	6
Marshall County	0	4
Meade County	0	3
Miami County	0	1
Mitchell County	0	8
Montgomery County	0	1
Morris County	0	1
Morton County	0	3
Nemaha County	0	1
Neosho County	0	1
Ness County	0	5
Norton County	0	4
Osage County	0	1
Osborne County	0	5
Ottawa County	0	5
Pawnee County	0	5
Phillips County	0	4
Pottawatomie County	0	1
Pratt County	0	7
Rawlins County	0	6
Reno County	0	10
Republic County	0	4
Rice County	0	7
Riley County	0	1
Rooks County	0	4
Rush County	0	4
Russell County	0	4
Saline County	0	6
Scott County	0	5
Sedgwick County	0	6
Seward County	0	2
Shawnee County	0	1
Sheridan County	0	4
Sherman County	0	6
Smith County	0	5
Stafford County	0	6
Stanton County	0	4
Stevens County	0	3
Sumner County	0	14
Thomas County	0	7
Trego County	0	4
Wabaunsee County	0	1
Wallace County	0	1
Washington County	0	4
Wichita County	0	4
Wilson County	0	2
Woodson County	0	1
State Total	**0**	**363**

KANSAS NURSERY PEST NEWSLETTER
Plant Protection and Weed Control
Kansas Department of Agriculture
PO Box 19282, Forbes Field, Bldg. 282
Topeka, Kansas 66619
http://www.ksda.gov/plant_protection/
Phone: 785-862-2180 FAX: 785-862-2182

October 2008

Pest Problems

Pine Wilt: Pine wilt is moving westward into communities with a large number of pines. It is a disease caused by a nematode which invades the wood of the pine and destroys the ability of the tree to take up water. A beetle called the pine sawyer moves the nematode from tree to tree. The Kansas Department of Agriculture, Kansas Forest Service, and Kansas State University Extension Service are working together with stakeholders such as nurserymen to prevent dissemination and establishment of this serious disease of pine.

The Pine Wilt Initiative of two years has paid off dividends with several outlying disease epicenters in central and western Kansas removed. A community action plan was developed and presented to several groups or stakeholders who live in the western half of the state in early 2008. Communities are now scouting and removing infected trees to limit the establishment and impact on local pine populations. The Kansas Forest Service is seeking financial support from the US Forest Service for mitigation efforts for future years. If they are successful in securing the grant, our plan is to address active pine wilt infestations on the leading edge in central Kansas with the goal of creating a buffer zone.

What are the hosts for pine wilt? Scotch, Austrian, and mugo pine. Most native pines have some resistance and white pine is generally spared from this disease. But in October of 2008, we had a report for the disease on white pine out of Johnson County.

What is the significance to the nursery industry here in Kansas? We ask the nursery industry to follow strict sanitation measures regarding pine wilt in their nurseries to avoid dissemination of the pine wilt complex statewide. Pine wilt is a regulated disease under the Kansas Plant Pest Freedom Standards (K.A.R. 4-5-10). Kansas regulation specifies that plant material have less than 1 percent incidence of pine wilt. The presence of pine sawyer, the insect that transmits the disease, excludes all material from meeting pest freedom standards. Infested nursery stock moves the nematode and the pine sawyer both locally and long distances. An unseen problem develops when adult sawyer beetles begin to emerge and feed on pines in late May. Pines take 6 to 12 weeks to express symptoms of pine wilt after infection. *If trees are dug during this interim, both the sawyer beetle and nematode are moved in what appears to be a healthy tree.* It is therefore potentially unsafe in regards to pine wilt complex to move pines from infested plantings after late May through early December.

Figure 1. A first instar larva of the pine sawyer in a gallery of a pine wilt infested tree.

- Nurseries direct a control program to scouting and destroying infested trees. This will reduce the risks to both nurseries and the consumer from pine wilt. Nurseries with pine wilt can continue to dig and ship pines if they follow **strict sanitation** measures through the growing season. Burn, bury, or chip dead or dying trees.

- Nurserymen consider not growing and promoting Scotch pine and in many places Austrian pine because of the pressure from pine wilt. Native pines are less susceptible to the disease complex. Consider natives for planting whenever possible.

- Nurserymen in central and western Kansas verify that your sources of stock originate in a pine wilt free nursery.

Virus in bedding and perennial plants:

Viruses in any plant material under Kansas Plant Pest regulations are regulated non-quarantine pests and that stock is subject to disposal. Please check your sources before bringing in infected stock into your operation.

Hosta Virus X and Arabis mosaic were a problem in hosta in 2008. We had numerous reports but believe the overall incidence was down from 2007. The hosta, yellow splash, accounted for about 20 percent of the reports of Hosta Virus X and was occasionally infected with Arabis mosaic. We started using the Agdia strips in May for diagnosis for Hosta Virus X and Arabis mosaic enabling on site confirmation. We encourage growers to take advantage of Agdia products or other companies for disease diagnostics (http://www.agdia.com) to help prevent the movement of infected plant material.

Other disease reports included a couple of greenhouses with high incidences of Impatiens necrotic ringspot virus. The stock in one operation, with several houses, was completely disposed of. Other viral reports included papaya mosaic on purslane and portulaca and Nemesia ringspot virus on Nemesia and suspected on phlox.

Figure 2. Papaya mosaics of purslane, symptoms include twisted and stunted growth.

Japanese Beetle: Japanese Beetle populations continue to grow and spread in Kansas. Some of the existing populations increased in 2008 and migrated several miles from the existing core infestation. The increase in numbers and distribution has led to the implementation of a new regulatory procedure for exporting nurseries and turf farms. A **Japanese Beetle Compliance Agreement** was developed and implemented for 2008 for some of the exporting nurseries that had Japanese beetle populations in their growing fields in 2007. The treatment procedure and protocol follows very closely to the **Japanese Beetle Harmonization Plan**. It is foreseen that for the 2009 growing season approximately 10-15 exporting nurseries and turf farms will be issued this compliance agreement.

The bio control program with the parasite (Ovavesicula popilliae) continued in 2008. The release sites were left undisturbed in 2008 with hopes that this would assist in the increase of the parasite population. Checks may be done in 2009 to see if the parasite is established.

Quarantined Plants

The Plant Pest and Commodities Certification Act give the Secretary of Agriculture the authority to quarantine plant pests. A quarantined plant cannot be sold, bartered, or moved. Currently the Department of Agriculture has four active permanent quarantines which are Grecian foxglove, purple loosestrife, tamarisk spp. (saltcedar), and a federal noxious weed quarantine.

Grecian foxglove, *Digitalis lanata*, originally from the southeastern part of Europe and was imported to the United States as an ornamental. Grecian foxglove's invasive characteristics allowed it to escape cultivation and invade Kansas pastures, hay meadows, and timber. The plant produces Digitalis, a heart stimulant that could kill cattle and adversely affect humans if the plant is eaten or if bare skin is subject to prolonged exposure.

Purple loosestrife, *Lythrum salicaria*, is a perennial invasive weed that invades lakes, rivers, and wetlands. Purple loosestrife is established across the United States and it is also noxious in many states including Nebraska. It is characterized by having a square stem with purple flowers that have 5-6 petals per flower. Since it flowers throughout the summer, it can produce up to 2.7 million seeds per mature plant.

Tamarisk (Saltcedar), *Tamarix spp*., currently displaced approximately 1.6 million acres of native vegetation in the western United States. Salt cedar is an invasive riparian shrub from Eurasia and was originally sold as an ornamental or planted for steam bank stabilization. It is a plant that is characterized by having a fast seedling growth rate allowing for quick establishment, profuse seed production with mature plants, increased soil salinity contributing to its invasive nature, and elevated water usage as compared to native species.

Federal Noxious Weed quarantine refers back to the list of noxious weeds declared by the federal government. The list is composed of 72 terrestrial and 19 aquatic species. Included are Japanese bloodgrass (cogongrass)-an escaped ornamental grass; giant salvinia-a floating aquatic fern species popular in the water garden trade; and hydrilla-a submerged aquatic plant that is often considered the worst aquatic weed in the United States.

Live Plant Certificates of Inspection

Our procedure for issuing Live Plant Certificates of Inspection was changed in 2008. We now issue the certificates at the time of the inspection but with an effective date of October 1 of the current year through September 30 of the following year. With this system the effective dates and ending dates are consistent. The only exception is when a client who has not had a Live Plant Certificate of Inspection and needs one during the growing season; we will do the inspection and issue the certificate with a September 30 expiration date of the current year. Greenhouses will be inspected during their production season and issued the certificate good for a calendar year as we have done in the past.

Trapping Programs

These were national trapping surveys.

Emerald Ash Borer: 200 traps total, 100 set by the state and 100 set by APHIS from May-September. No EAB found. (for more information go to www.emeraldashborer.info)

Light Brown Apple Moth: 50 traps set from July-October. No LBAM found.
(For more information go to www.aphis.usda.gov/plant_health/plant_pest_info/lba_moth/index.shtml.)

We would like to express our appreciation to the nurseries that let us put traps on their property. This type of work is of great importance in protecting Kansas. Early detection will improve the odds of eradication and containment success if the pest is found.

Staff

Northwest. Bob Buhler: 785-627-3574. bob.buhler@kda.ks.gov

Northeast. Bill Hilbert: 785-246-4211. bill.hilbert@kda.ks.gov

South Central. Cherie Copeland: 316-943-0438. cherie.copeland@kda.ks.gov

Southeast. Tom Sanders: 785-862-2180 tom.sanders@kda.ks.gov

Southwest. Terry Clarkson: 620-855-2403 terry.clarkson@kda.ks.gov

Program Manager. William T. Scott: 785-862-2180 bill.scott@kda.ks.gov

Entomology. Glenn Salsbury: 620-230-0843 glenn.salsbury@kda.ks.gov

Plant Pathology. Jon Appel: 785-537-3155 jon.appel@kda.ks.gov

Weed Science. Jeff Vogel: 785-862-2180 jeff.vogel@kda.ks.gov

CAPS Coordinator. Laurinda Ramonda: 785-862-2180 laurinda.ramonda@kda.ks.gov

Export Specialist. Kitty Crooks: 785-862-2180 kitty.crooks@kda.ks.gov

Administrative Assistant. Sarah Bailey: 785-862-2180 sarah.bailey@kda.ks.gov

Kansas Department of Agriculture
Plant Protection & Weed Control
Forbes Field-Building 282
PO Box 19282
Topeka, KS 66619-0282

First Class

KANSAS NURSERY PEST NEWSLETTER
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Kansas Department of Agriculture
PO Box 19282, Forbes Field, Bldg. 282
Topeka, Kansas 66619
www.ksda.gov/plant_protection/
Phone: (785) 862-2180 FAX: (785) 862-2182
Spring 2009

Pest Problems

Bark Beetles: The Unseen Menace

Bark and ambrosia beetles are small to very small beetles that infest mostly woody plants. In Kansas, the beetles range in size from about 4.0 mm on the large side to 0.5 mm on the small side.

The beetles themselves are not often observed, as they hide in bark crevices and beneath the bark. First evidence of a beetle attack is usually the appearance of frass on the trunk or limbs.

The difference between bark and ambrosia beetles is that bark beetles feed on the woody portion of the plant whereas ambrosia beetles feed on fungus (ambrosia) introduced into the gallery system.

There are about 65 species of bark and ambrosia beetles in Kansas but there are only about six of great concern to the nurseryman and homeowner. Most of these beetles feed in stressed or dead trees and many confine themselves to the limbs**. The six top beetles in Kansas are the Granulate Ambrosia Beetle, Eastern 5-Spined Ips, European Elm Bark Beetle, Shothole Borer and two species of Ash Bark Beetles.**

The **granulate ambrosia beetle** is now present in at least the eastern half of Kansas. This insect has become one of the most common beetles trapped during trapping surveys. At times, thousands of beetles can be caught over a period of just a few days. This beetle will attack healthy as well as stressed trees. It confines itself to mostly small diameter material, but will attack the lower boles of larger stressed trees. Attacks on small trees often result in the death of the tree while on larger trees damage from the boring may cause cankers to develop. A few of the hosts of this beetle are: oak, elm, plum, sweet potato, pecan, peach, redbud and pear. Stored logs may also be attacked rendering the wood unsuitable for lumber. Control measures must be applied before the beetles seal the entrance hole with frass.

The **eastern 5-spined Ips** attacks stressed pines. Pines that are dug and maintained in a holding area until they can be sold are very susceptible to attack. First evidence of attack is the presence of frass in the bark crevices. Attacks by this insect can result in the death of the tree or it may further weaken the tree, inviting attack by other wood-boring insects. A species related to this beetle and recently detected in Kansas is the pine engraver. It remains to be seen if this insect becomes a pest in the state.

The **European elm bark beetle**, also known as the smaller European elm bark beetle, is the species responsible for the death of millions of American elms. This beetle spreads a fungus that closes off the vascular tissue resulting in the death of the tree. When a suitable tree has been found, the beetles release an aggregation pheromone attracting hundreds or thousands more beetles. Traps and pheromones are available for monitoring this pest. Fortunately elms now been developed that are resistant to Dutch elm disease.

There are two species of ash bark beetles in the state that have been a recent cause for concern. These are the **eastern ash bark beetle** and the **western ash bark beetle.** The eastern species is widespread in Kansas, while the western species is, at present, only known in the Wichita area.

In recent years the eastern species seems to have become more aggressive and has been responsible for the death and decline of many ash trees across the state. Especially hard hit has been southeast Kansas. Most of the problems seem to be in the urban setting or at sites that are marginally suited for ash. Many ash trees seem to do well when first planted but after several years are attacked by bark beetles. Ash prefer moist areas. When planted in upland areas they become stressed as they grow older, inviting attack by bark beetles.

The **shothole borer** is a small shiny beetle that attacks cherries and other fruit trees. So many beetles may attack a tree that it will appear to have been shot with a shotgun. Sometimes the beetles can be seen in the holes.

One last beetle to watch for is the **hickory bark beetle**. This beetle has recently been found in Kansas and is reported to be the most serious pest of hickory in the United States. So far, this insect is only known to be in Cherokee County.

How the Kansas Noxious Weed Law Applies To Nurseries

The Kansas Noxious Weed Law was enacted in 1937, putting the responsibility to control any weeds declared noxious by the Legislature on the landowner, both public and private. Since then several sections have been added to the law to prevent the spread of noxious weeds, including K.S.A -1326, which makes it unlawful to sell any nursery stock infested with a noxious weed or its seed.

Field bindweed

The Legislature has declared 12 weeds noxious statewide and two county-option weeds. **The following are the most notable noxious weeds on the list: Field bindweed**, the state's number one noxious weed, is a perennial vine with opposite leaves and white flowers. **Musk thistle** is a large biannual weed that spends its first year as a rosette and bolts in the spring with large purple flowers. **Sericea lespedeza** is a perennial legume with baseball bat shaped leaves and small white flowers with purple throats. **Canada thistle** is a smaller perennial thistle that reproduces with seeds and rhizomes. It is a dioecious, meaning that it has separate male and female plant. When both sexes are present; it will produce seed that blows in the wind.

Canada thistle

Selling any plant with viable noxious weed plant material or seeds is in violation of the Kansas Noxious Weed Law. Please contact Plant Protection and Weed Control or your local county weed department with any noxious weed identification or control questions.

1000 Canker Disease of Walnut – Alert

Walnut twig beetle, side view. *Photograph by Jim LaBonte, Oregon Department of Agriculture.*

We are asking nurserymen, landowners, arborists and others in Kansas to be on the alert for a new disease of walnut. We need your assistance in early detection of this disease, which could threaten black walnuts in the native woodlands, planted woodlots and landscape. The disease may enter Kansas by the natural movement of the bark beetle or by human activity. This activity could be in the form of firewood movement, nursery stock or other movement of untreated wood or logs. Western Kansas is at highest risk. Please report suspects.

- The disease is caused by a fungus, *Geosmithia*.

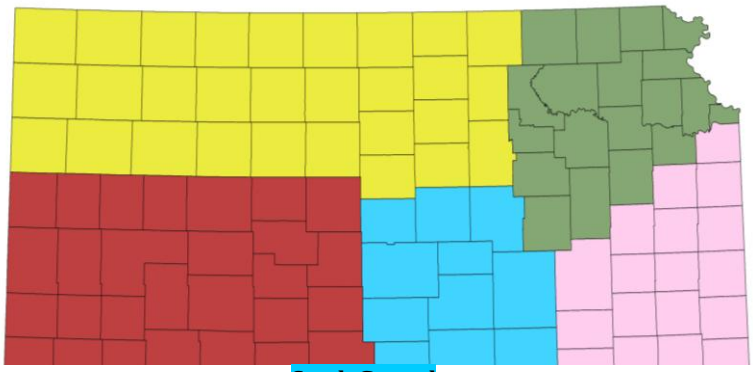
- It is transmitted by the walnut bark beetle.
- Look For: Upper crowns yellowing and thinning, then branches die and the entire tree may suddenly wilt and die. Small black cankers are just under the bark with insect galleries.
- Trees die after three years from initial symptoms.
- Control is by early removal and destruction of wood.
- The disease is found in states west of Kansas, including Colorado and New Mexico.

Trapping

Traps for **emerald ash borer** will be set again this year. The Kansas Department of Agriculture and USDA will each set 100 traps through the summer, mostly at lakes, event areas and campgrounds.

Emerald ash borer has been found in the southeastern part of Missouri, near the Wisconsin and Minnesota border in Wisconsin and in St. Paul, Minnesota, as of May 15. Both finds are at least 5-6 years old. **Watch for these symptoms in ash trees: canopy dieback beginning in the top one-third of the canopy, sprouting from the base of the tree and trunk, bark splitting, serpentine galleries below the bark, D-shaped exit holes and increased woodpecker activity.**

Area Staff



Northwest Kansas
Bob Buhler
1585 Road P
Moreland, KS 67650
(785) 627-3574
(785) 207-1507 (M)
bob.buhler@kda.ks.gov

Southwest Kansas
Terry Clarkson
20416 Hwy 50
P.O. Box 193
Cimarron, KS 67835
(620) 855-2403
(785) 256-3849 (M)
terry.clarkson@kda.ks.gov

Northeast Kansas
Tom Sanders
P.O. Box 19282
Forbes Field, Bldg. 282
Topeka, KS 66619
(785) 862-2180
(785) 207-0582 (M)
tom.sanders@kda.ks.gov

Southeast Kansas
Kitty Crooks
6080 Washington Ave.
Parker, KS 66072
(785) 207-0583 (M)
kitty.crooks@kda.ks.gov

South Central
Cherie Copeland
2728 W. 17th St.
Wichita, KS 67203
(316) 943-0438
(785) 207-0580 (M)
cherie.copeland@kda.ks.gov

State Specialists

Bill Scott
Program Manager
P.O. Box 19282
Forbes Field, Bldg. 282
Topeka, KS 66619
(785) 862-2180
(785) 207-2118 (M)
bill.scott@kda.ks.gov

Jon Appel
Plant Pathologist
1711 Westbank Way
Manhattan, Ks 66503
(785) 537-3155
(785) 564-0071 (M)
jon.appel@kda.ks.gov

Glenn Salsbury
Entomologist
105 S. Dittman
Frontenac, KS 66763
(620) 230-0843
(785) 207-0584 (M)
glenn.salsbury@kda.ka.gov

Jeff Vogel
Weeds Specialist
P.O. Box 19282
Forbes Field, Bldg. 282
Topeka, KS 66619
(785) 862-2180
(785) 207-0586 (M)
jeff.vogel@kda.ks.gov

Laurinda Ramonda
CAPS Coordinator
P.O. Box 19282
Forbes Field, Bldg. 282
Topeka, KS 66619
(785) 862-2180
laurinda.ramonda@kda.ks.gov

Sarah Bailey
Administrative Assistant
P.O. Box 19282
Forbes Field, Bldg. 282
Topeka, KS 66619
(785) 862-2180
sarah.bailey@kda.ks.gov

Retired Area Staff

Bill Hilbert, area specialist for the Kansas Department of Agriculture for more than 34 years, retired in March. Mr. Hilbert was an organizer of the Central Chapter of the Horticulture Inspectors Society and one of the authors of the Horticultural Inspectors Guide. He was the recipient of the Carl Carlson Award, an award presented by his peers for his contribution to the profession. Bill was always willing to share his knowledge with the master gardeners and entomology classes at KSU and the Johnson County Community College. He judged 4-H entomology projects at county fairs and the state fair. His expertise and enthusiasm for the job will be missed.

Kansas Department of Agriculture
Plant Protection and Weed Control
Forbes Field-Building 282
PO Box 19282
Topeka, KS 66619-0282

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